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EXAMINER				
ROY, SIKHA				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/598,608

**Applicant(s)**

RITZ, ARND

**Examiner**

Sikha Roy

**Art Unit**

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-10 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 06 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The Amendment, filed on August 29, 2008 has been entered and acknowledged by the Examiner.

In light of amendment the 35 U.S.C. 112, first paragraph rejection of claim 1 and objection to the abstract have been withdrawn.

Claims 1-10 are pending in the instant application.

#### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, 'the interference filter arranged not in the location where the region of lowest temperature establishes itself at the contour of the burner wall' as claimed in claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The title of the invention as submitted on 8/29/08 should read as following:

---- HIGH PRESSURE DISCHARGE LAMP HAVING AN INFRARED INTERFERENCE FILTER----

***Claim Objections***

Claim 1 is objected to because of the following informalities:

The limitation of 'material of the burner wall is not transparent' is objected because the transparency of the wall depends on the wavelength of the radiation transmitted through. As disclosed in the specification (page 4 lines 1-5) the applicant has disclosed the burner wall absorbs infrared radiation and because of sufficient absorption in this wavelength range (infrared wavelength) the material of the wall is accordingly not transparent for this wavelength. Furthermore the Examiner notes how does this lamp provides light (emission) if the burner wall material is not transparent (to visible radiation). For continuing examination it is considered to be not transparent for infrared radiation.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for temperature controlling by providing multilayer interference filter on the burner wall, does not reasonably provide enablement for how the location of the filter is determined so that 'in that location or at least in that location (or not in that location for claim 6) the region with a lowest temperature establishes itself at the outer contour of the burner wall. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make use of the invention commensurate in scope with these claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5 the recitation of 'interference filter is arranged in that location or at least in that location where the region of lowest temperature establishes itself at the contour of the burner wall' is not specific because according to claim 1 the region with lowest temperature establishes at the contour of the burner wall in dependence of

the mounting position of the lamp during operation and hence without reciting any particular orientation of the lamp renders the claim indefinite. Furthermore the Examiner notes that the position of the region of lowest temperature at the contour of the burner wall' also depends on the variables such as position of the discharge electrodes and dimension and shape of the burner of the lamp and hence the claim fails to particularly point out and distinctly claim the subject matter.

Regarding claim 6 the recitation of 'interference filter is arranged not in that location where the region of lowest temperature establishes itself at the contour of the burner wall' is not clear because according to claim 1 the region with highest temperature establishes at the contour of the burner wall in dependence of the mounting position of the lamp during operation and hence without reciting any particular orientation of the lamp renders the claim indefinite. Furthermore the Examiner notes that the position of the region of highest temperature at the contour of the burner wall' also depends on the variables such as position of the discharge electrodes and dimension and shape of the burner of the lamp.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,952,768 to Strok et al.

Regarding claim 1 Strok discloses (Fig. 2 col. 2 lines 35-48 col. 3 lines 16-20 col. 4 lines 7-60) a high pressure discharge lamp comprising a burner 26 which has burner wall 32 and a discharge chamber 34 enclosed by the burner wall wherein a region with a lowest temperature (cold region where metal halides migrate and condense) and a region with highest temperature (hot region) establish themselves at the contour of the burner wall during operation and in dependence with mounting position (orientation) of the lamp. Strok further discloses a multilayer interference filter 58 is provided on a portion of the contour of the burner wall where the interference filter 58 reflects towards the discharge chamber mainly light in the wavelength range of infrared light. The burner wall of the lamp of Strok being formed of quartz (same as that disclosed by the applicant) inherently has its maximum emissive power and being absorbent of infrared radiation is not transparent for that radiation.

Regarding claim 2 Strok discloses the multilayer interference filter 58 is characterized in that a layer with a higher refractive index and a layer with a lower refractive index occur in alternation in its structure.

Regarding claim 5 Strok discloses the interference filter is arranged in the location of the lowest temperature region (horizontally disposed arc tube typically forms a cold region at the bottom of the bulbous portion) at the contour of the burner wall. (This fact is well known in the art as noted by the applicant in the Remarks section ).

Regarding claim 6 Strok discloses the interference filter disposed on the contour of the burner wall including the bottom and the two side ends of the arc tube and hence is arranged not in the location of the lowest temperature region.

Claim 7 adds no limitation to claim 1 and hence is rejected for the same reason.

Regarding claim 8 Strok discloses (col. 4 lines 20-25) the material of the burner wall is made of quartz and accordingly the interference filter is capable of reflecting mainly infrared light in the wavelength of 2 micron.

Regarding claim 9 Strok discloses a lighting unit comprising the lamp.

Regarding claim 10 Strok discloses (col. 5 lines 37-42) the lamp used in a projection system (optically controlled) in automotive.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,952,768 to Strok et al. as applied to claim 1 above, and further in view of USPN 4,652,789 to Kawakatsu et al.

Regarding claim 3 Strok discloses (col. 4 lines 60-64) the layer having lower refractive index comprises SiO<sub>2</sub> and the second layer of higher refractive index than SiO<sub>2</sub> comprises tantalum oxide or titanium oxide.



Strok does not exemplify the layer with high refractive index comprising preferably zirconium oxide ( $ZrO_2$ ).

Kawakatsu in same field of endeavor discloses (col. 2 lines 28-37) a multilayer infraredreflecting filter composed of plurality of laminated layers in which one layer of high refractive index consisting tantalum oxide, zirconium oxide and the layer with low refractive index consisting of silica.

The selection of known material for a known purpose is considered to be within the skill of the art. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute zirconium oxide for the layer with high refractive index as disclosed by Kawakatsu for tantalum oxide of Strok since selecting known material for a known purpose is within the skill of the art.

Regarding claim 4 Strok discloses the second layer of high refractive index is made of tantalum oxide (tantala), titanium oxide(titania).

### ***Response to Arguments***

Applicant's arguments with respect to claims 5 and 6 have been considered but are not persuasive.

In response to applicant's allegation that "the lamp characterized in that the interference filter (3) is arranged in that location or at least in that location where the region of lowest temperature establishes itself at the outer contour of the burner wall (25)" as originally recited in dependent claim 5, and " the interference filter (3) is arranged not in that location where the region of lowest temperature establishes itself at

the outer contour of the burner wall (25)" as originally recited in dependent claim 6 **are well known in the art** the Examiner respectfully disagrees. The Examiner notes that the position of the region of lowest temperature at the contour of the burner wall and the region of not of lowest temperature depends on the orientation of the arc tube and variables such as position of the discharge electrodes and dimension of the burner of the lamp and hence does not reasonably provide enablement for how the location of the filter is determined and also fails to particularly point out and distinctly claim the subject matter. Hence the Examiner asserts that rejections of claim 5 and 6 of 35 U.S.C. 112, first paragraph and second paragraph are proper.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,639,341 to Sakai et al. discloses a metal halide discharge lamp with infrared reflecting coating at the two ends.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sikha Roy/  
Primary Examiner, Art Unit 2879